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MAY 10 2006
PATENT & TRADEMARK OFFICE

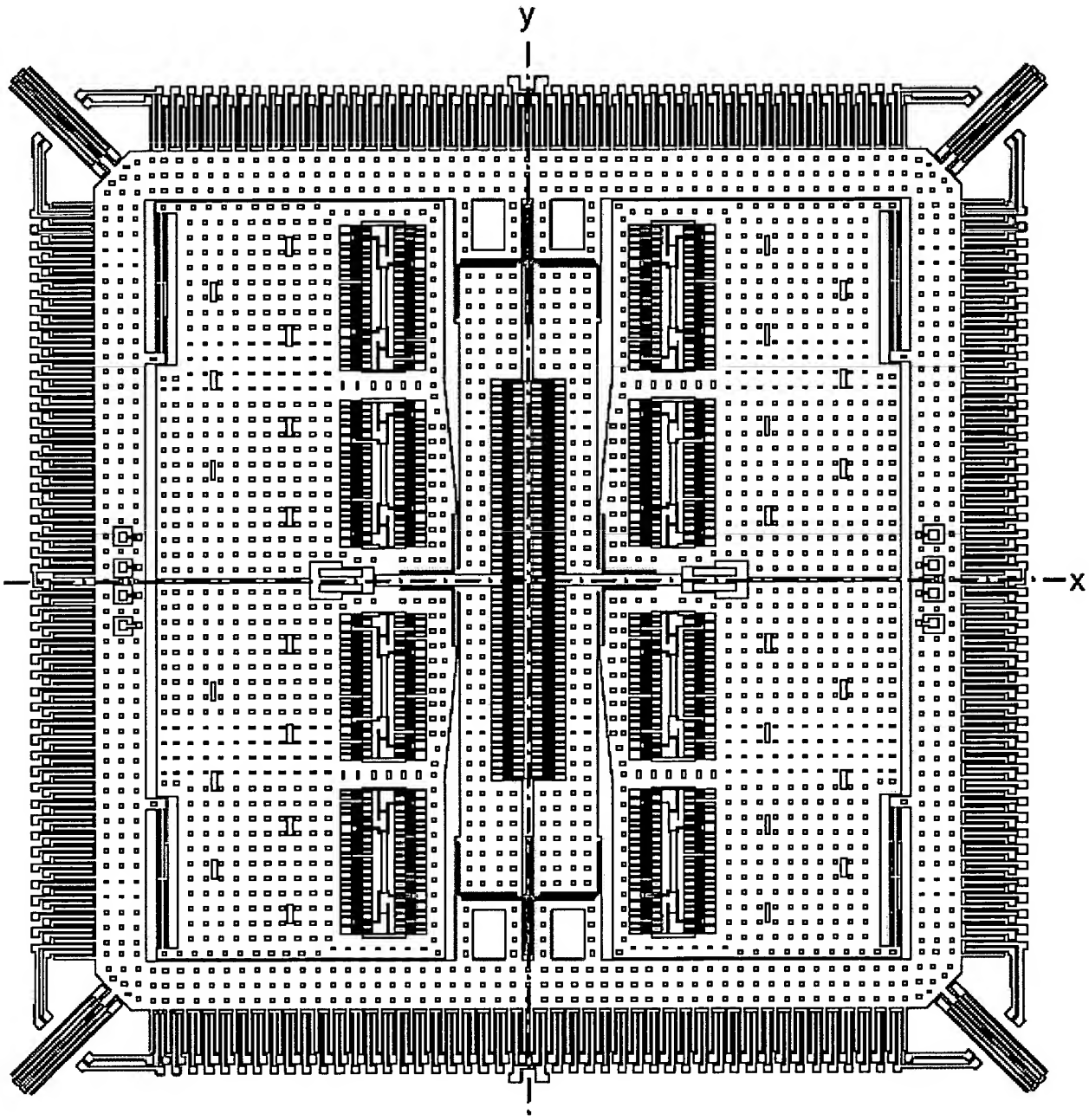
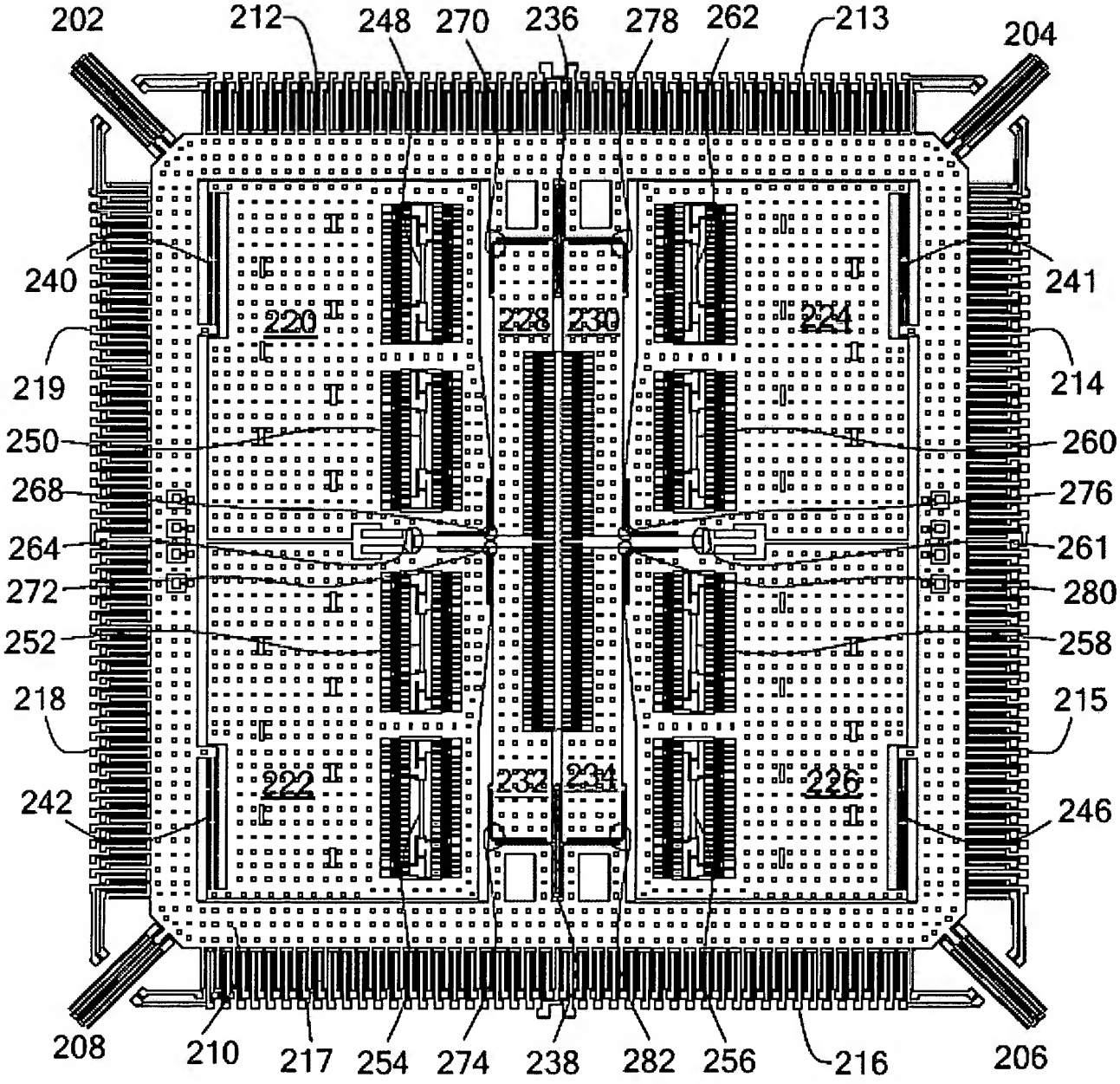


Fig. 1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206

Fig. 2

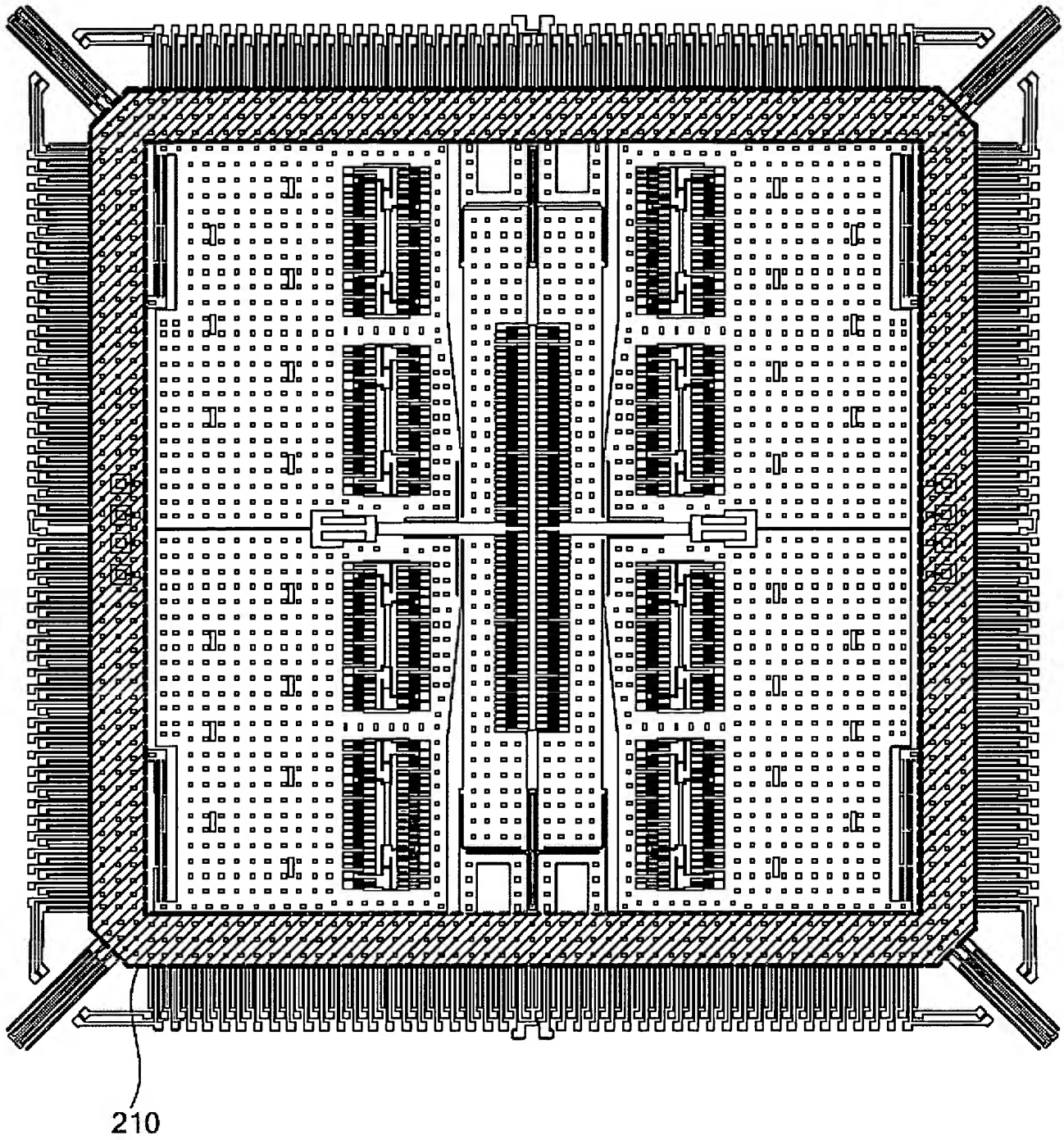


Fig. 3

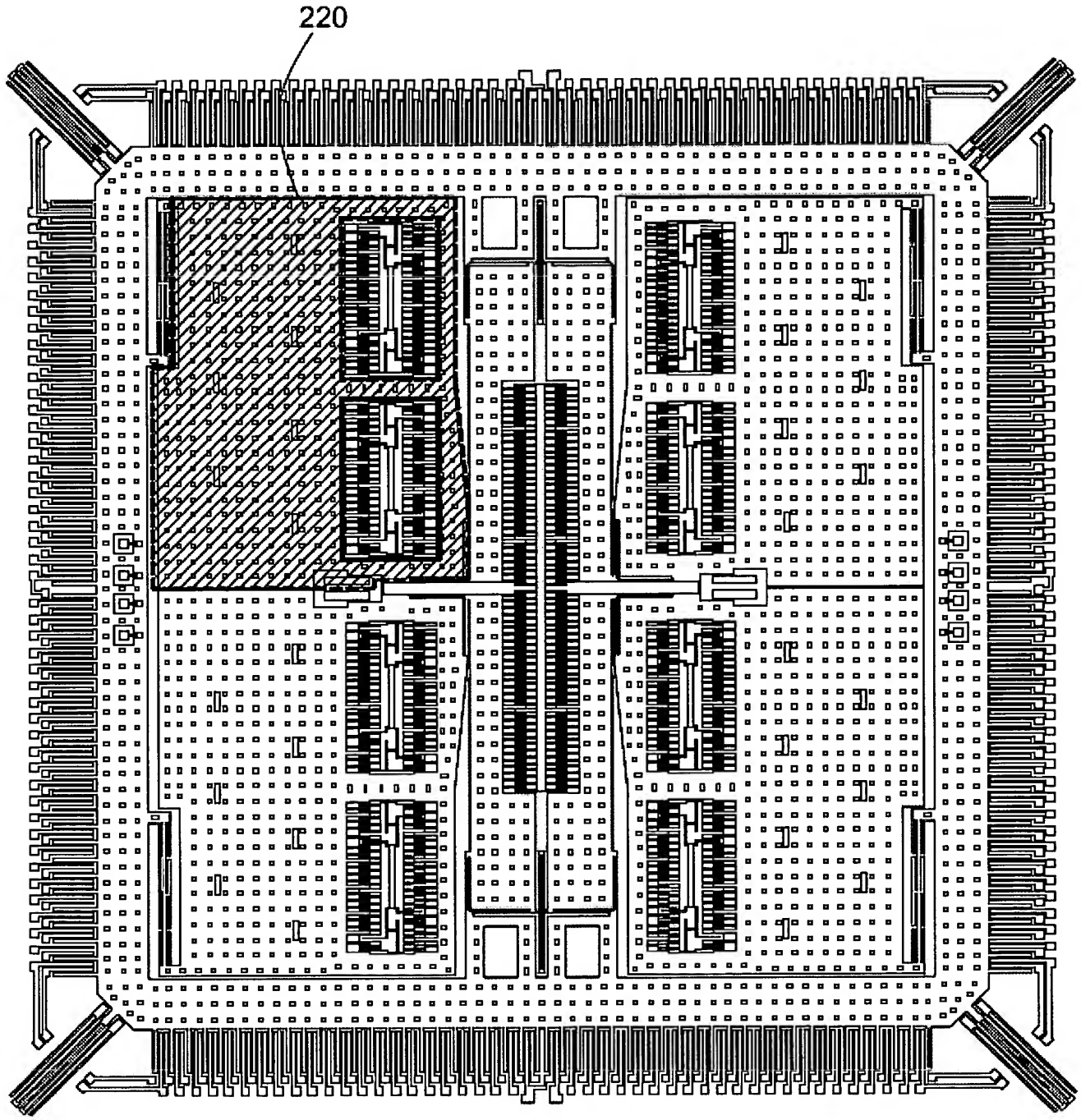


Fig. 4

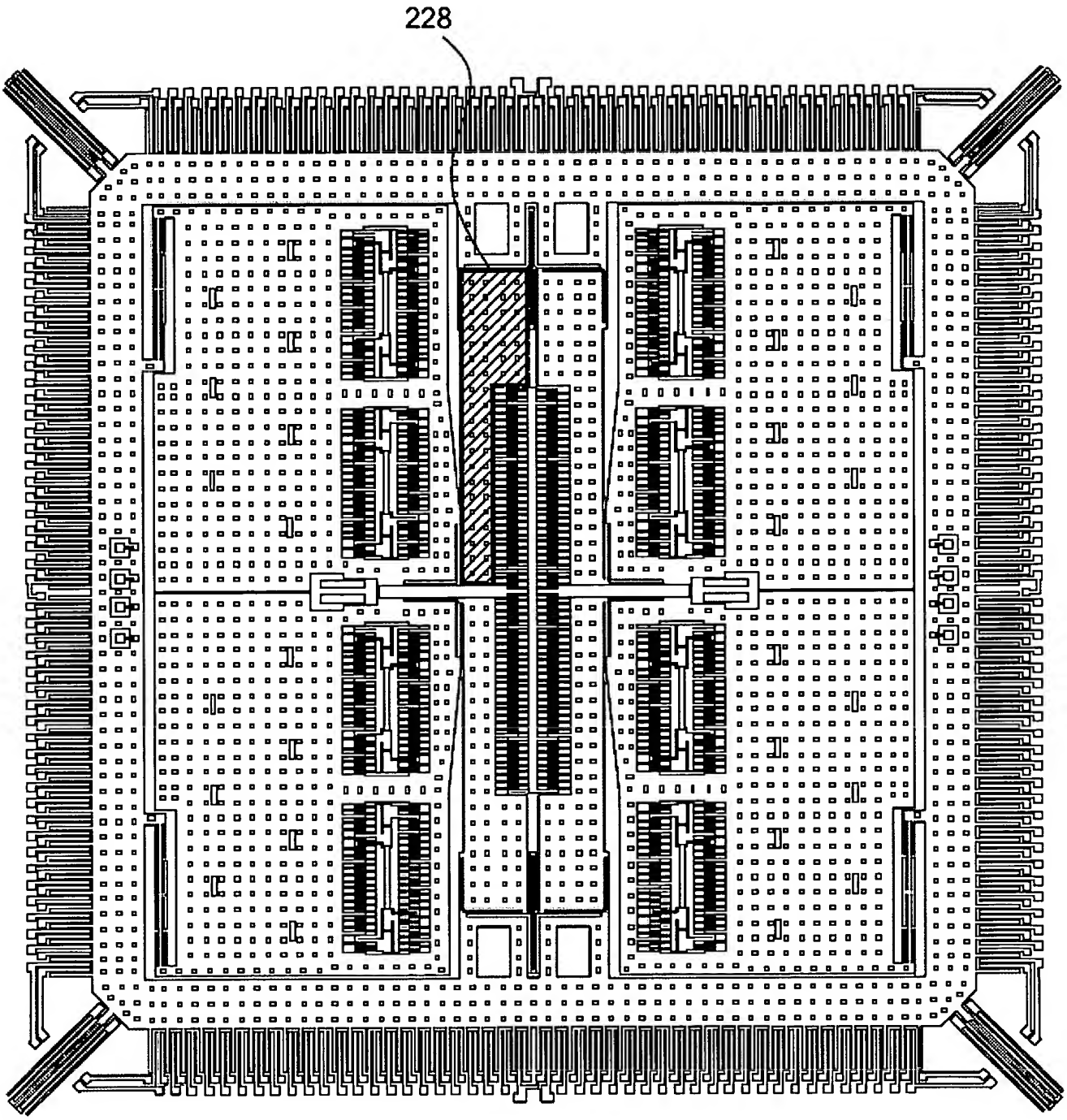


Fig. 5

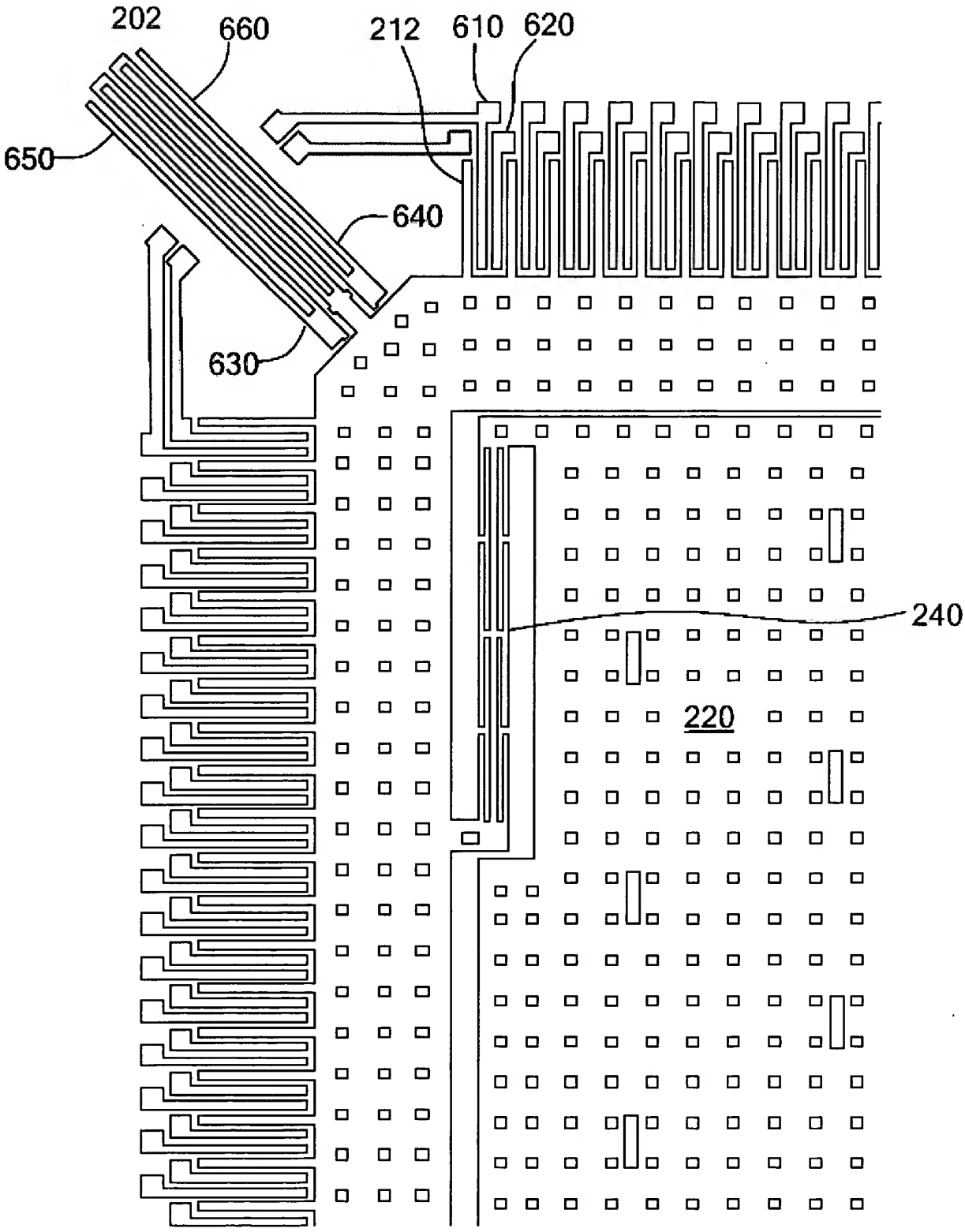


Fig. 6

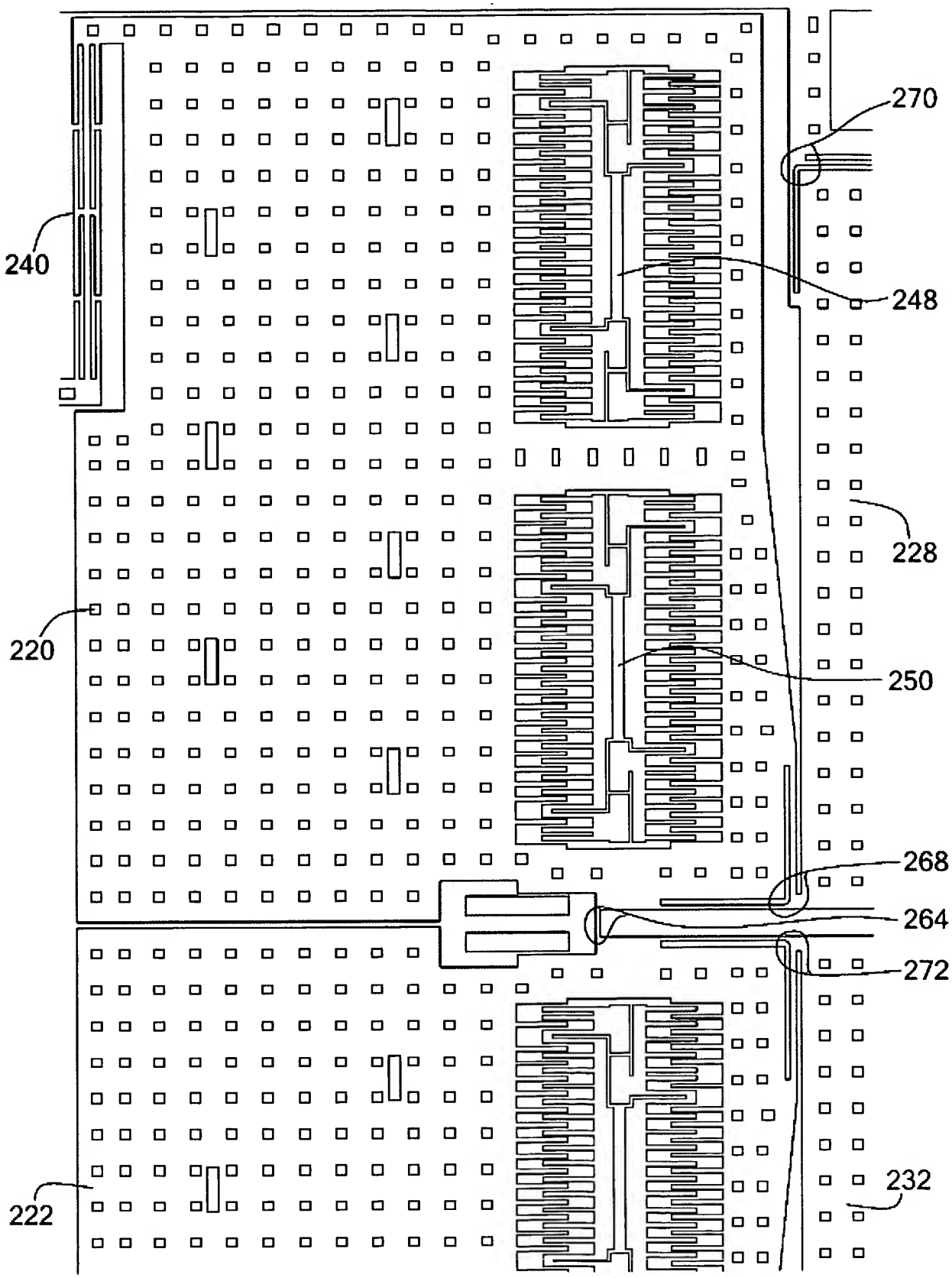


Fig. 7

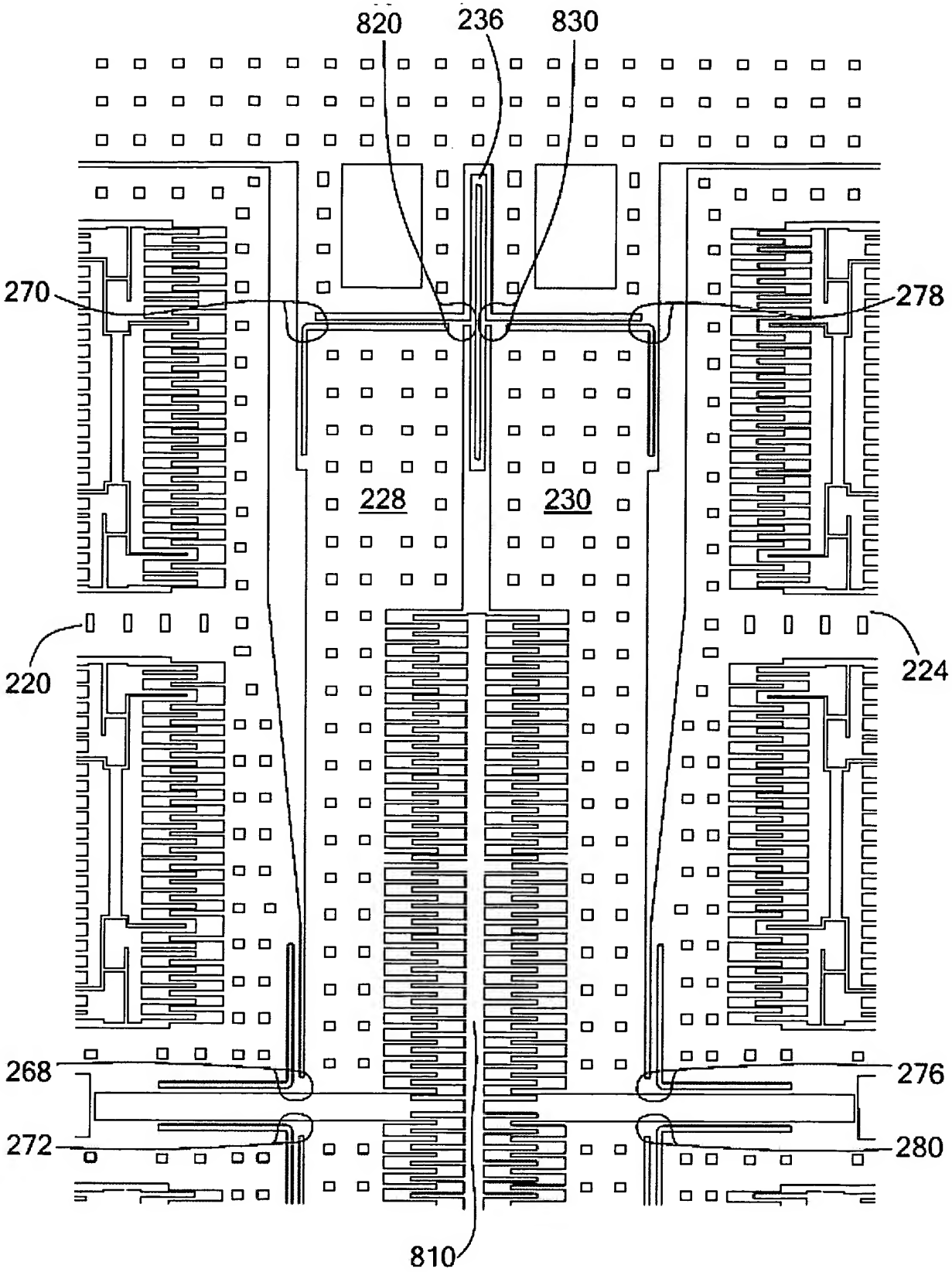


Fig. 8

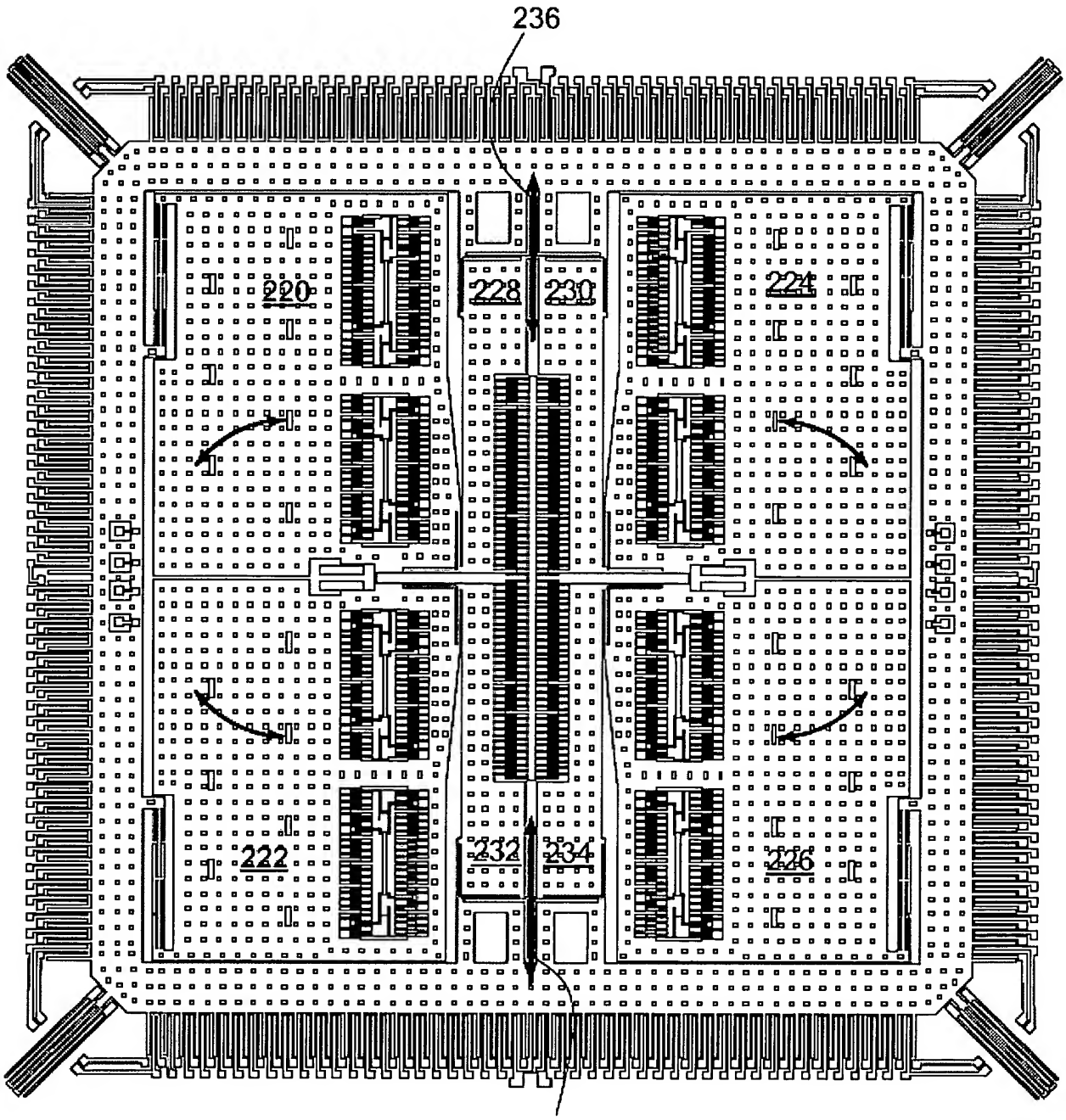


Fig. 9

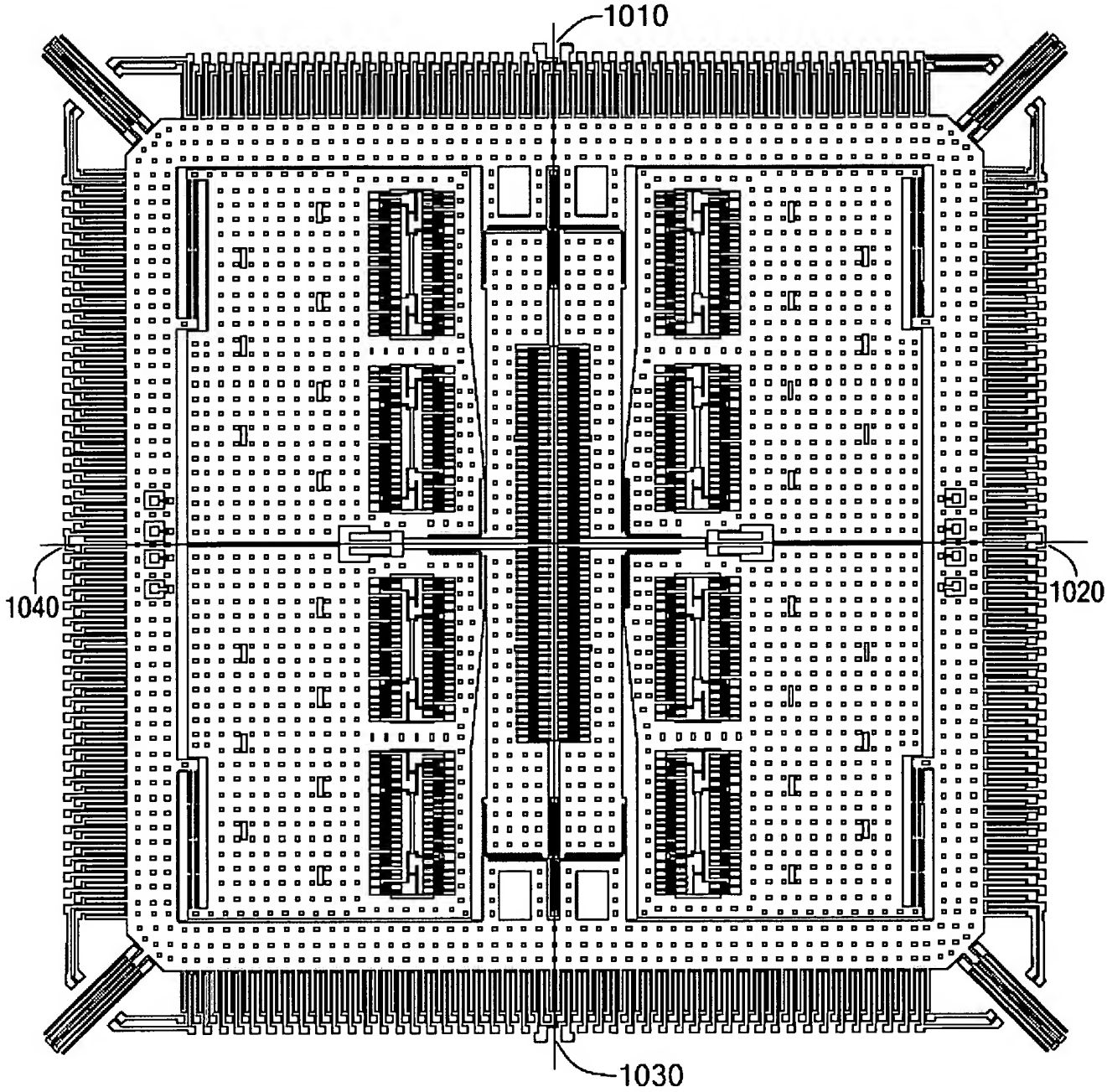


Fig. 10

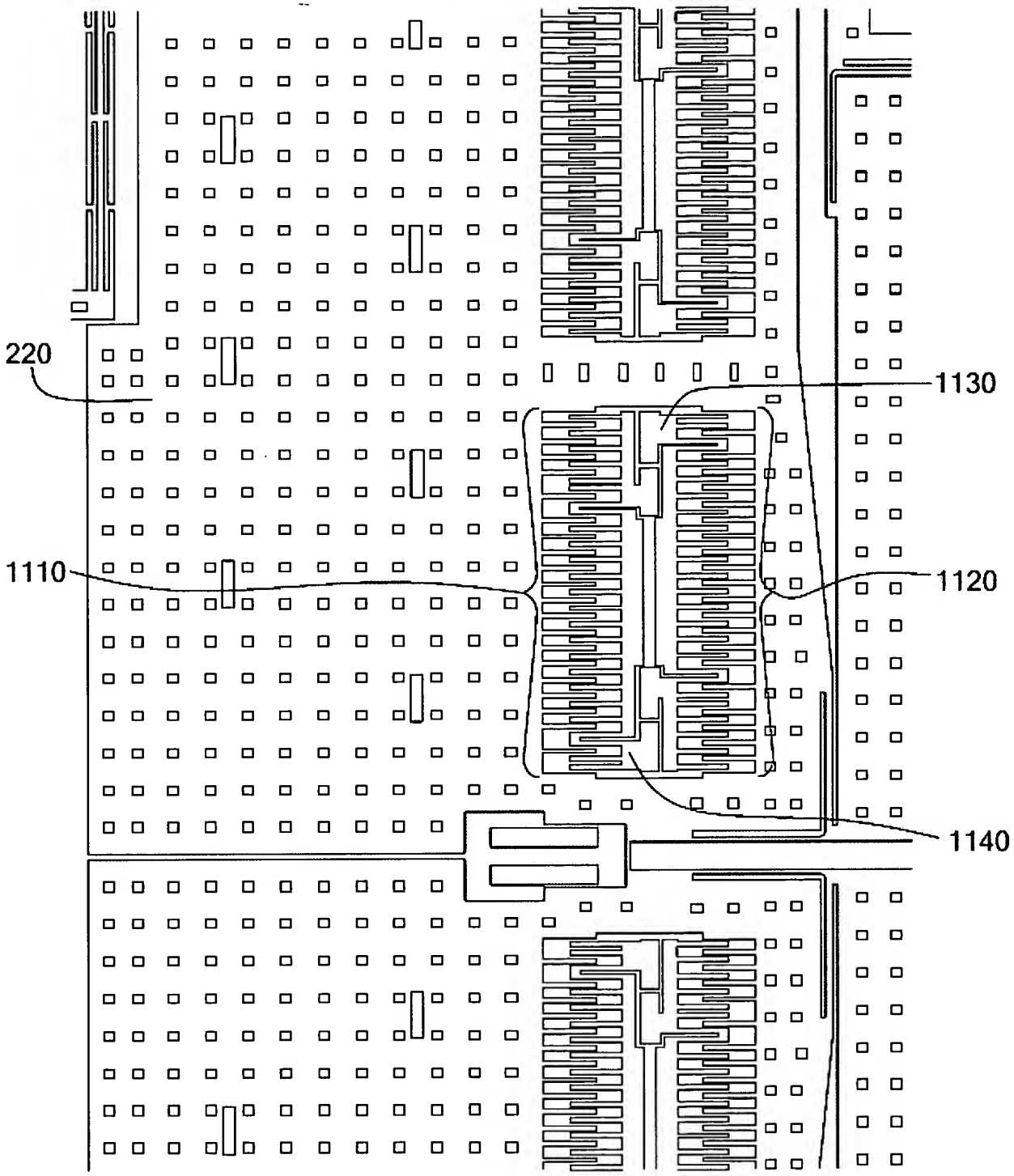


Fig. 11

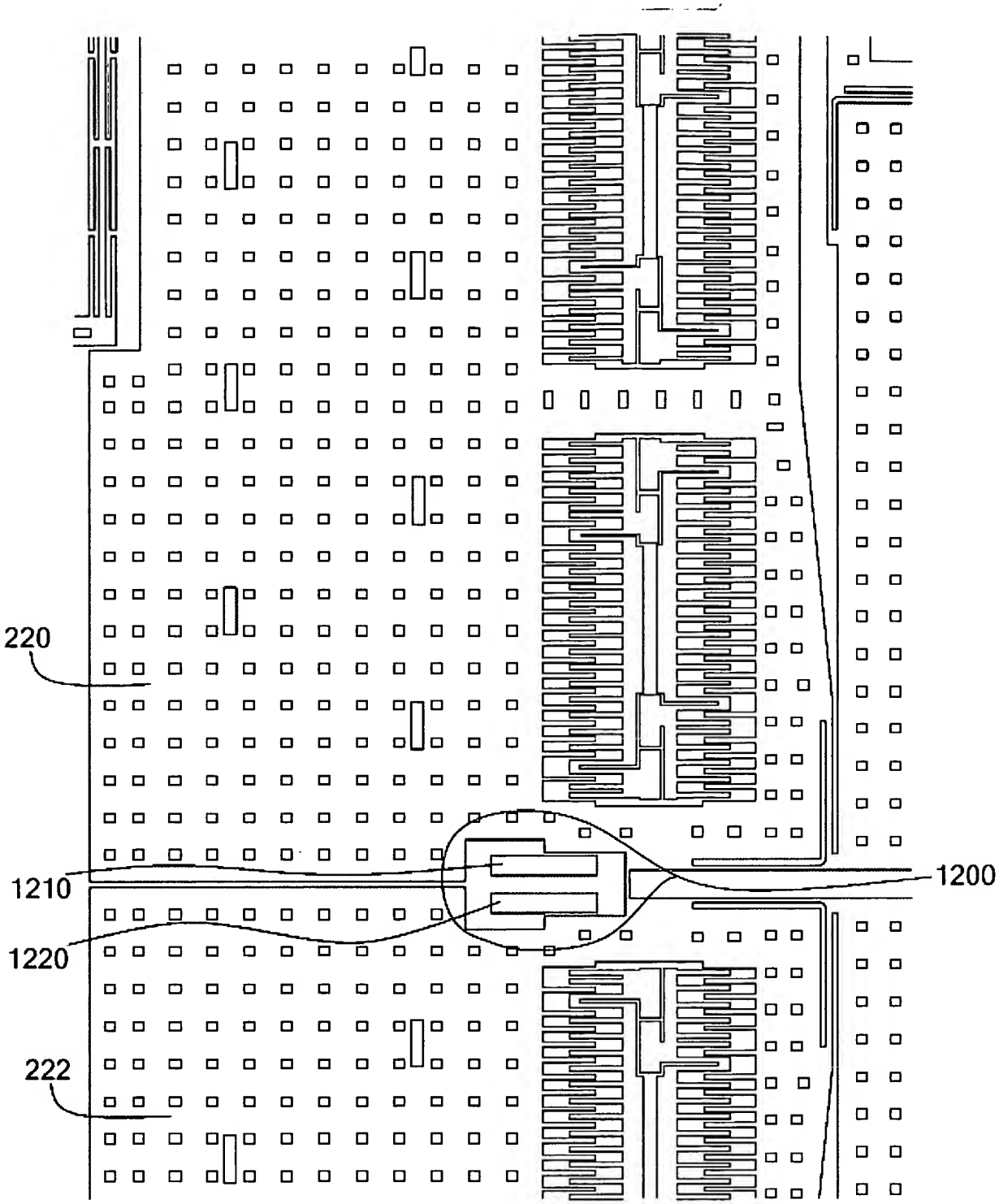


Fig. 12

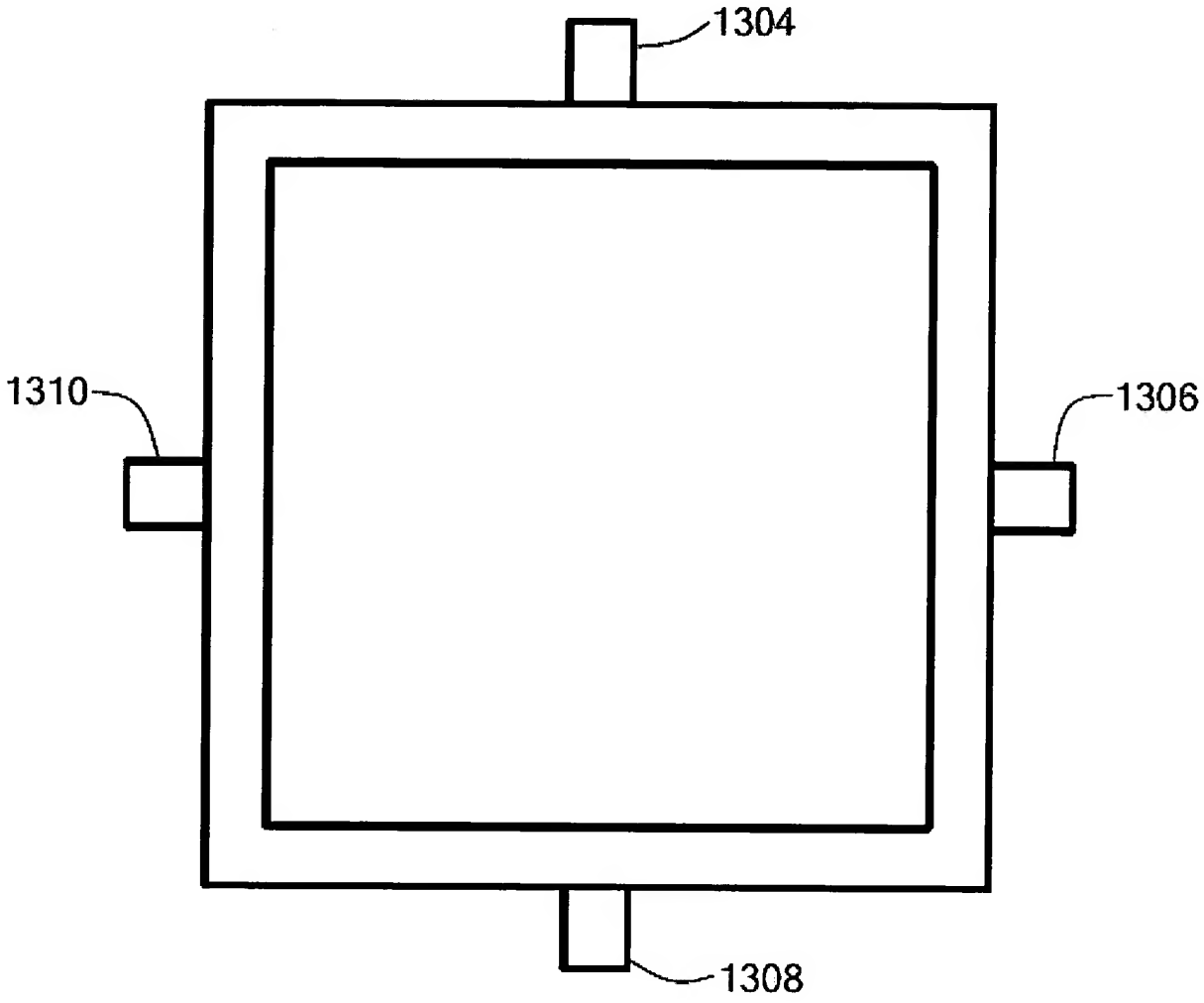


Fig. 13

VELOCITY 2nd HARMONIC DISTORTION

$cf := clp - \frac{an}{2} - \frac{3\,gg}{2}$ center line at velocity fingers to coupling lever pivot $\frac{cf}{um} = 48.3$

$Nv := 0,1 .. \frac{v}{8} - 1$ $s(Nv) := \frac{cf}{lcl - Nv\,(wf(0)+gv(0))\,2}$ $\frac{gg}{um}$

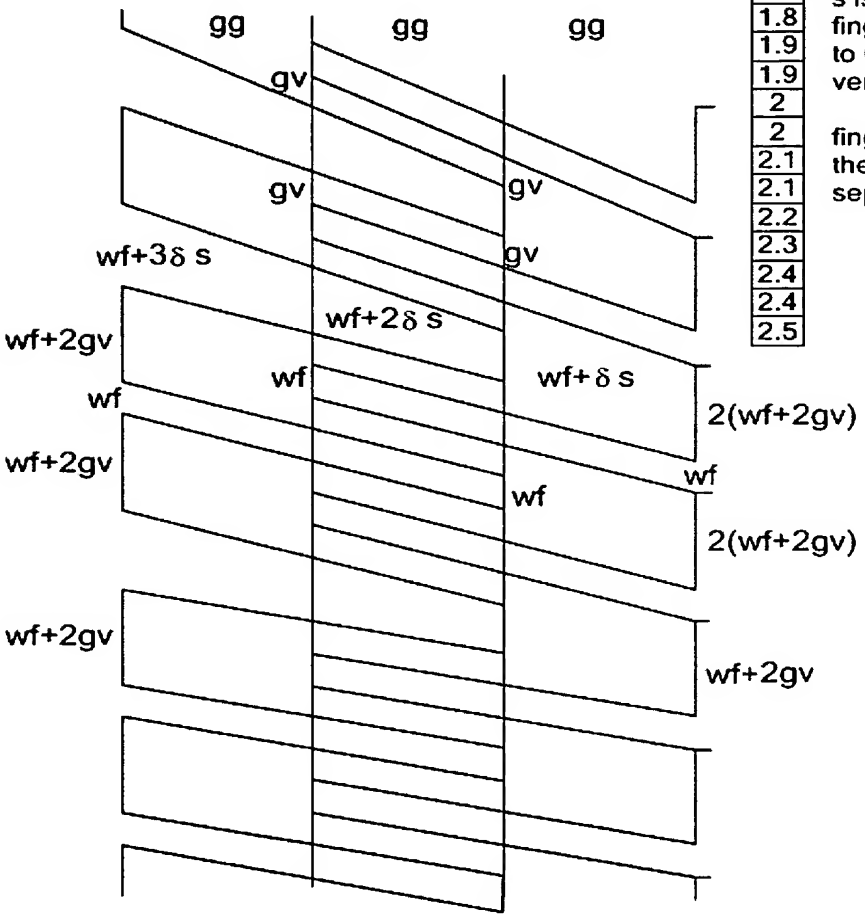
s(Nv)=

1.7
1.7
1.8
1.8
1.8
1.9
1.9
2
2
2.1
2.1
2.2
2.3
2.4
2.4
2.5

gv>gd to allow perpendicular spacing within gd limit

s is Y coordinate shift of finger for X of gg rounded to 0.1um. This allows the vertices of all fingers on grid.

fingers have uniform pitch on the coupling lever and uniform separation on the fixed bus.



$td(Nv) := (s(Nv) - round(s(Nv(Nv),1)) \frac{lcl - Nv\,(wf(0)+gv(0))\,2}{cf}$

tangential displacement error, um, or effective value.

$tde := \sqrt{\sum_{Nv=0}^{\frac{v}{8}} \frac{8\,td(Nv)^2}{v}}$ tde=0.12

Fig. 14

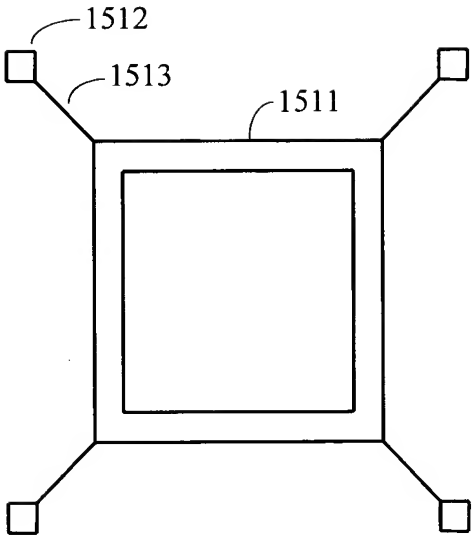


FIG. 15A

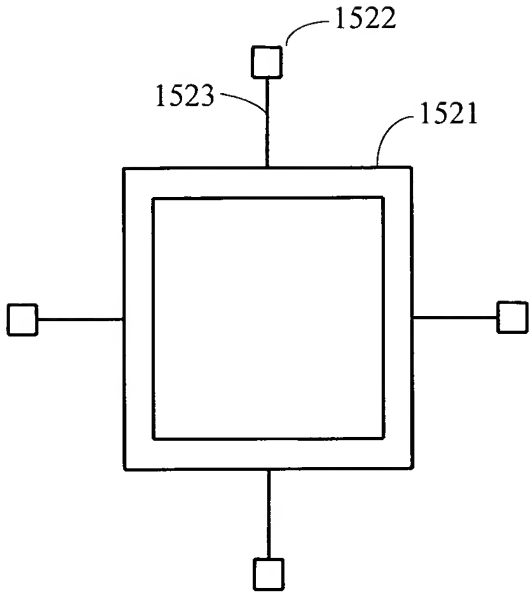


FIG. 15B

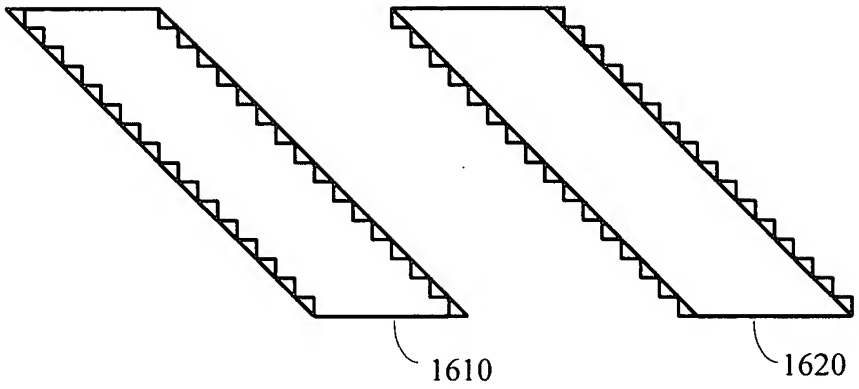


FIG. 16

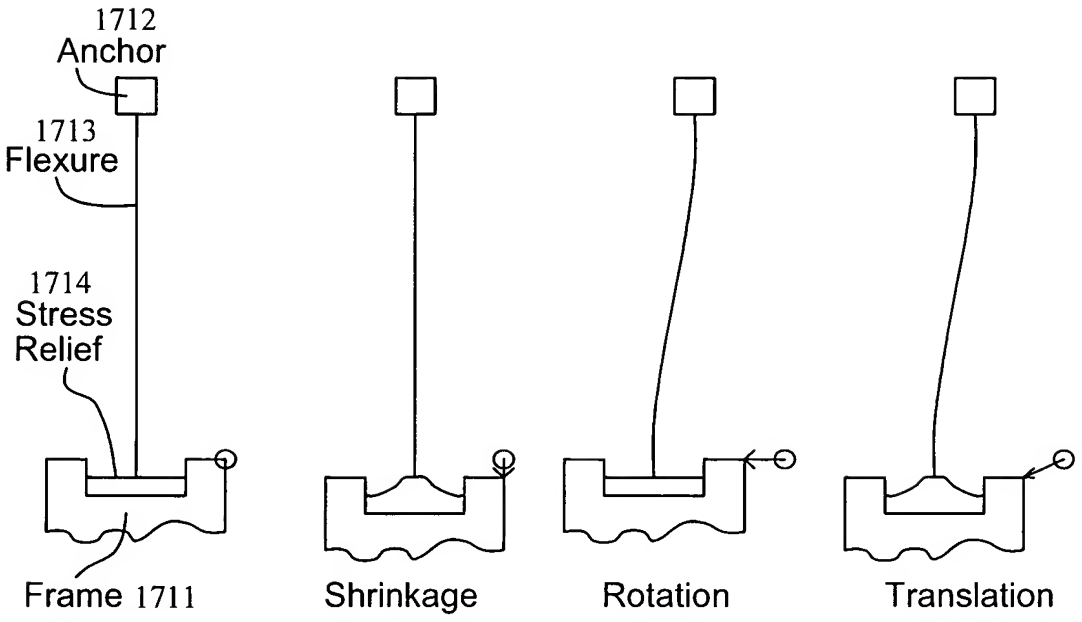


FIG. 17A FIG. 17B FIG. 17C FIG. 17D

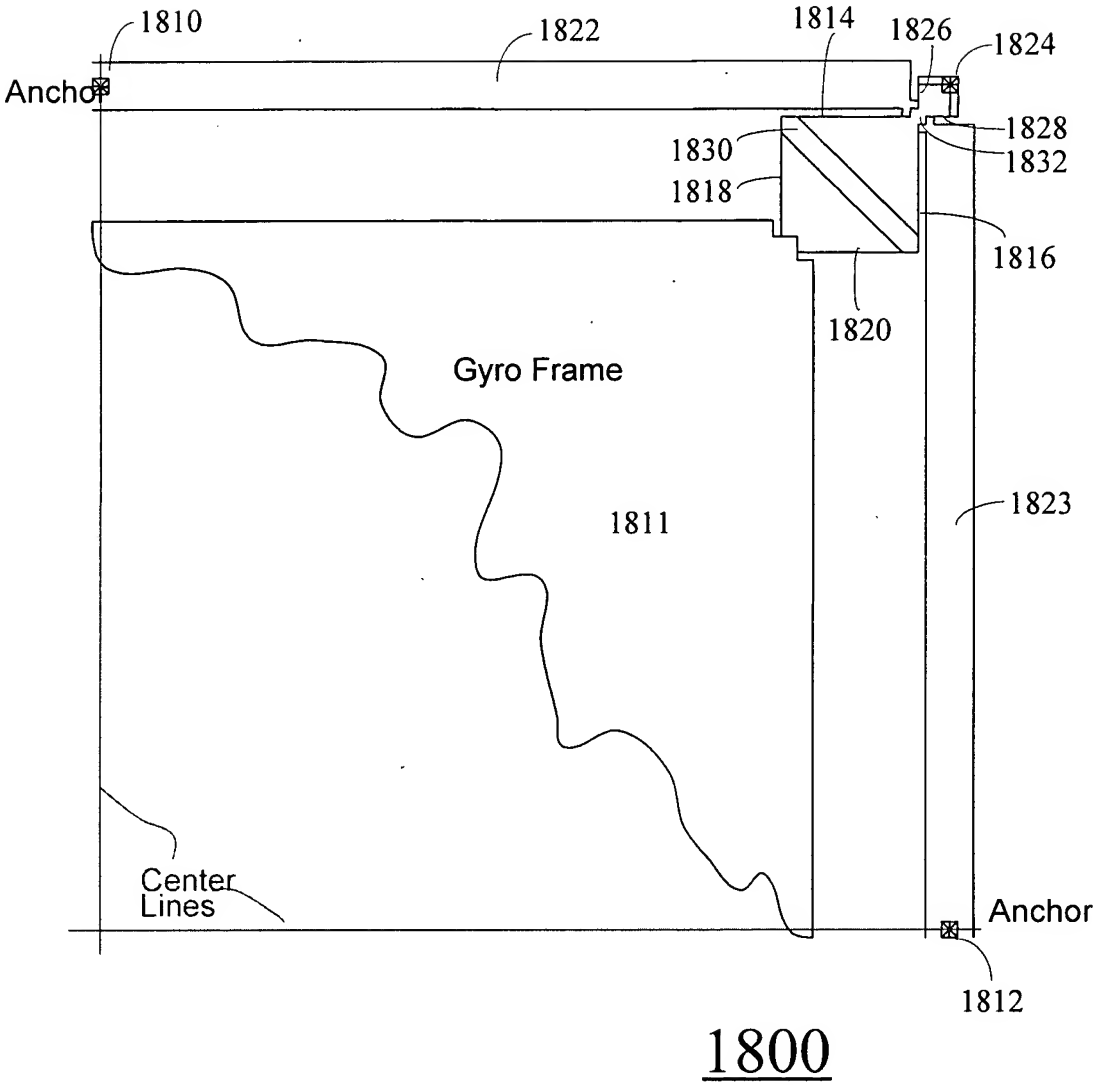

1810
1822
1814
1826
1824
Anchor
1828
1830
1832
1818
1816
1820
Gyro Frame
1811
1823
Center
Lines
Anchor
1812
1800

FIG. 18

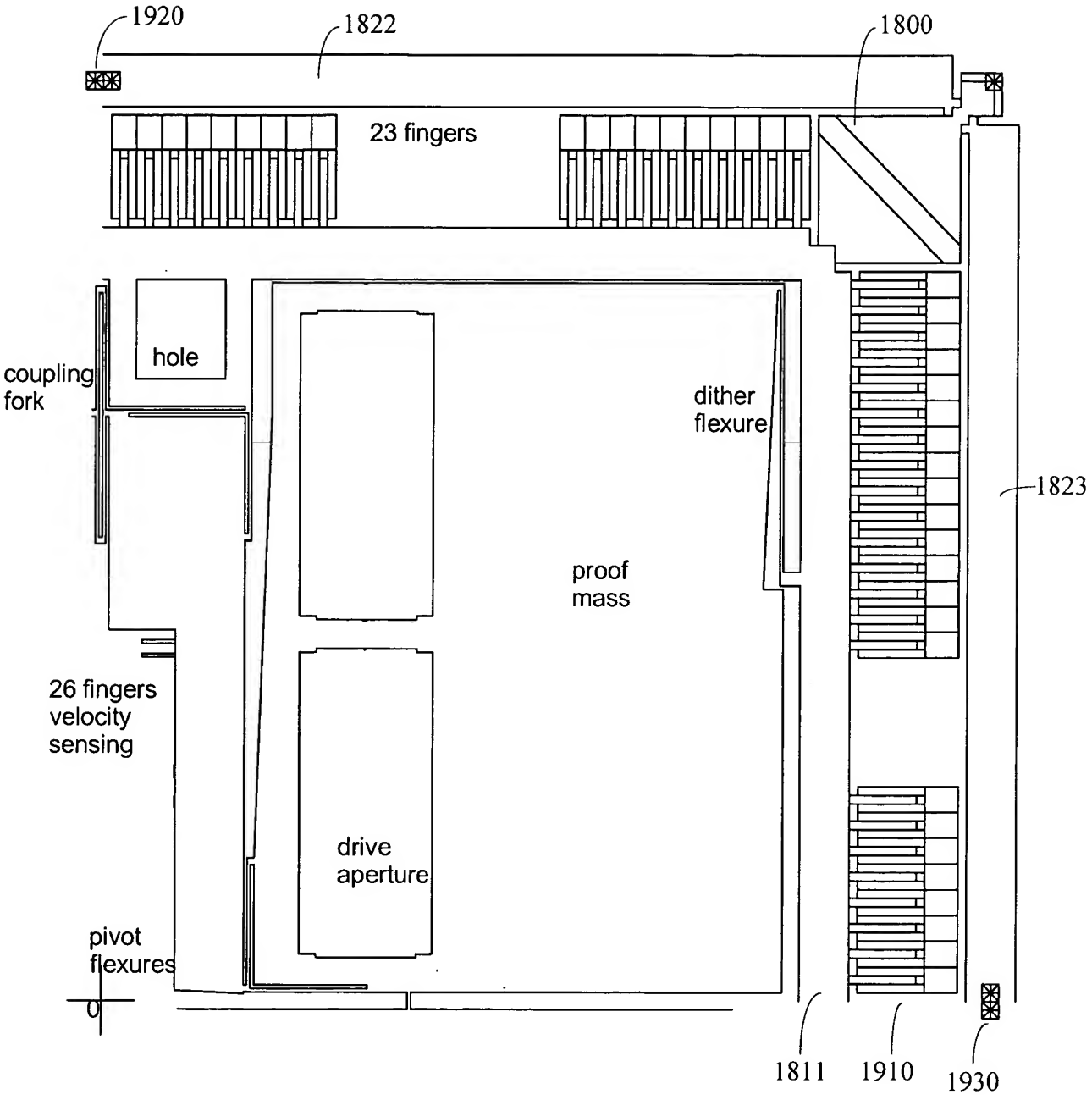

1920
1822
1800
23 fingers
hole
coupling fork
dither flexure
1823
proof mass
26 fingers velocity sensing
drive aperture
pivot flexures
0
1811
1910
1930

FIG. 19

BEST AVAILABLE COPY

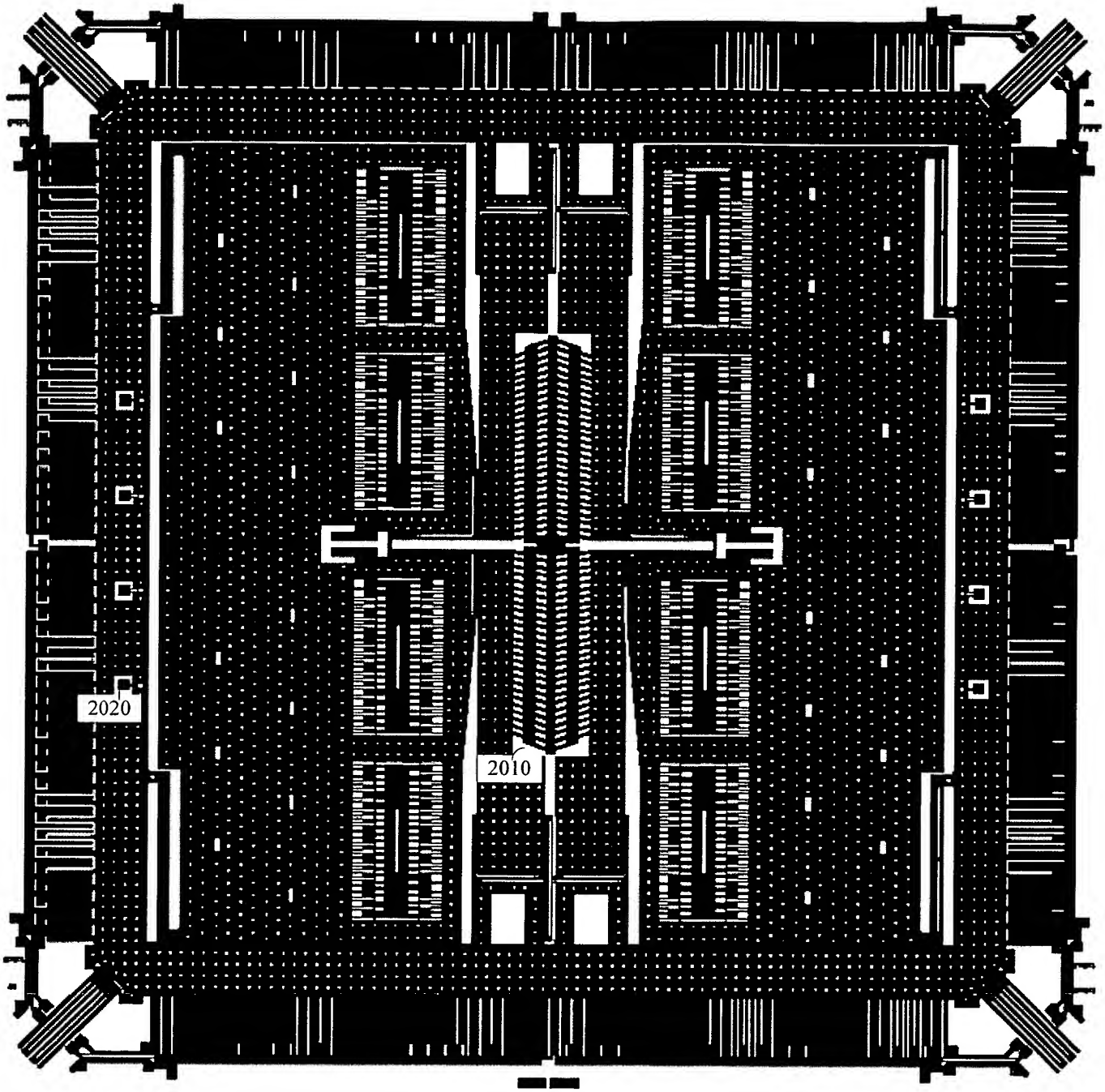


FIG. 20

BEST AVAILABLE COPY

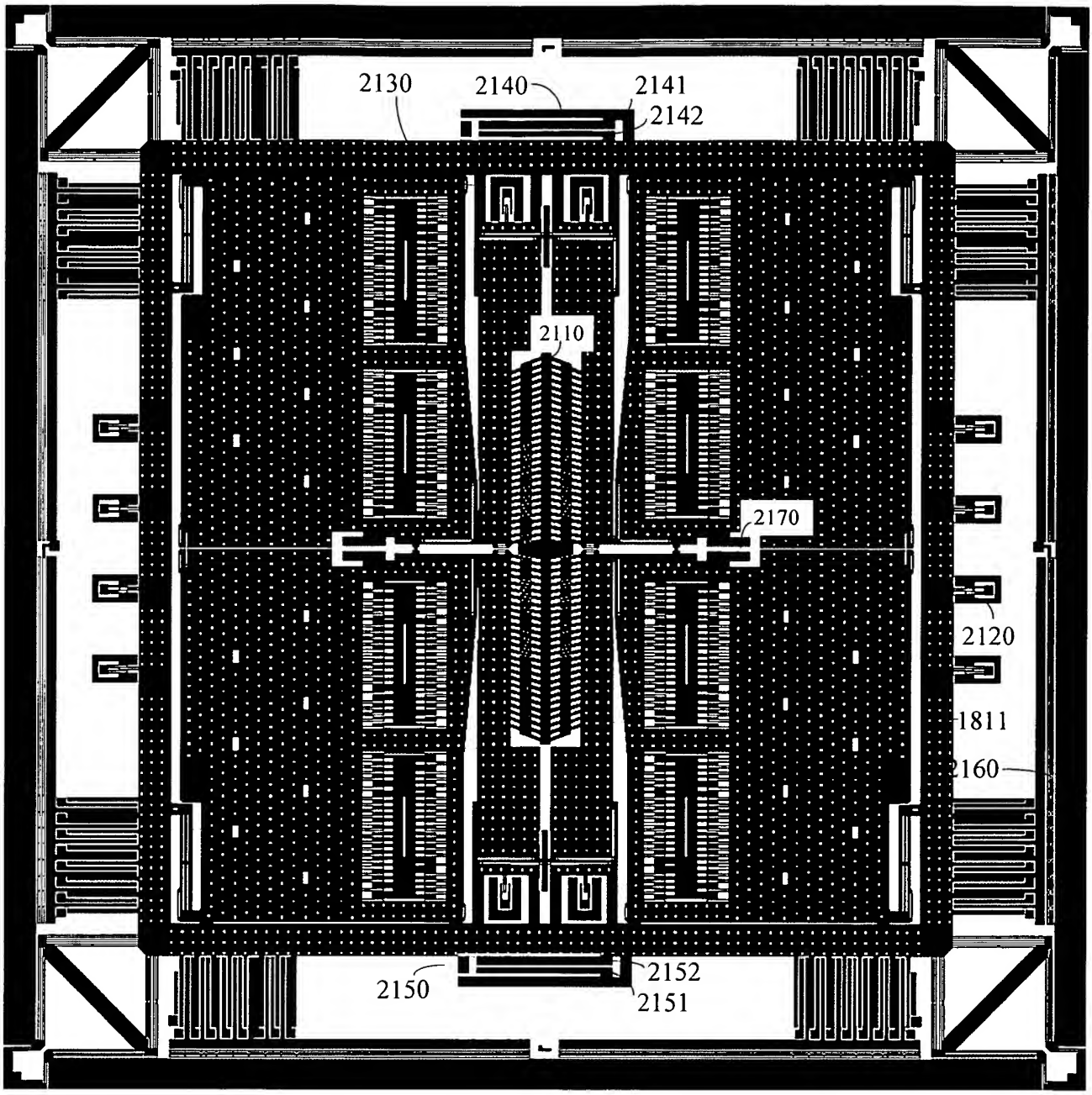


FIG. 21

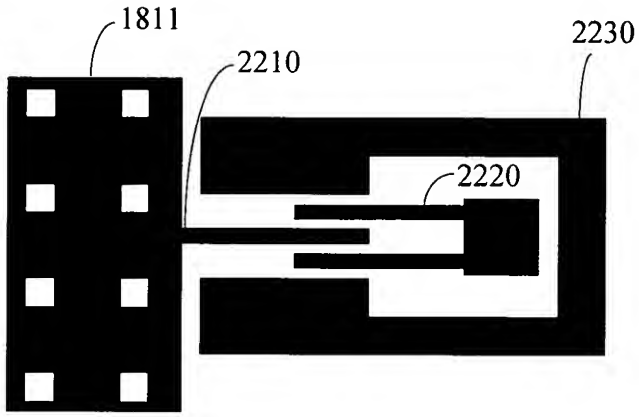


FIG. 22